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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

ENDIVE

UPOV Code: CICHO_END

Cichorium endivia L.

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

Alternative Names:*

<i>Botanical name</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Cichorium endivia</i> L.	Endive	Chicorée frisée, Chicorée scarole	Endivie	Escarola

The purpose of these guidelines ("Test Guidelines") is to elaborate the principles contained in the General Introduction (document TG/1/3), and its associated TGP documents, into detailed practical guidance for the harmonized examination of distinctness, uniformity and stability (DUS) and, in particular, to identify appropriate characteristics for the examination of DUS and production of harmonized variety descriptions.

ASSOCIATED DOCUMENTS

These Test Guidelines should be read in conjunction with the General Introduction and its associated TGP documents.

* These names were correct at the time of the introduction of these Test Guidelines but may be revised or updated. [Readers are advised to consult the UPOV Code, which can be found on the UPOV Website (www.upov.int), for the latest information.]

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1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Cichorium endivia* L..

2. Material Required

2.1 The competent authorities decide on the quantity and quality of the plant material required for testing the variety and when and where it is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must ensure that all customs formalities and phytosanitary requirements are complied with.

2.2 The material is to be supplied in the form of seed.

2.3 The minimum quantity of plant material, to be supplied by the applicant, should be:

20 g or 10,000 seeds.

The seed should meet the minimum requirements for germination, species and analytical purity, health and moisture content, specified by the competent authority. In cases where the seed is to be stored, the germination capacity should be as high as possible and should, be stated by the applicant.

2.4 The plant material supplied should be visibly healthy, not lacking in vigor, nor affected by any important pest or disease.

2.5 The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

3. Method of Examination

3.1 *Number of Growing Cycles*

The minimum duration of tests should normally be two independent growing cycles.

3.2 *Testing Place*

Tests are normally conducted at one place. In the case of tests conducted at more than one place, guidance is provided in TGP/9 "Examining Distinctness".

3.3 *Conditions for Conducting the Examination*

The tests should be carried out under conditions ensuring satisfactory growth for the expression of the relevant characteristics of the variety and for the conduct of the examination.

3.4 *Test Design*

3.4.1 Each test should be designed to result in a total of at least 60 plants, which should be divided between at least 2 replicates.

3.4.2 The design of the tests should be such that plants or parts of plants may be removed for measurement or counting without prejudice to the observations which must be made up to the end of the growing cycle.

3.5 *Additional Tests*

Additional tests, for examining relevant characteristics, may be established.

4. Assessment of Distinctness, Uniformity and Stability

4.1 *Distinctness*

4.1.1 General Recommendations

It is of particular importance for users of these Test Guidelines to consult the General Introduction prior to making decisions regarding distinctness. However, the following points are provided for elaboration or emphasis in these Test Guidelines.

4.1.2 Consistent Differences

The differences observed between varieties may be so clear that more than one growing cycle is not necessary. In addition, in some circumstances, the influence of the environment is not such that more than a single growing cycle is required to provide assurance that the differences observed between varieties are sufficiently consistent. One means of ensuring that a difference in a characteristic, observed in a growing trial, is sufficiently consistent is to examine the characteristic in at least two independent growing cycles.

4.1.3 Clear Differences

Determining whether a difference between two varieties is clear depends on many factors, and should consider, in particular, the type of expression of the characteristic being examined, i.e. whether it is expressed in a qualitative, quantitative, or pseudo-qualitative manner. Therefore, it is important that users of these Test Guidelines are familiar with the recommendations contained in the General Introduction prior to making decisions regarding distinctness.

4.1.4 Number of Plants / Parts of Plants to be Examined

Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 20 plants or parts taken from each of 20 plants and any other observations made on all plants in the test, disregarding any off-type plants.

4.1.5 Method of Observation

The recommended method of observing the characteristic for the purposes of distinctness is indicated by the following key in the second column of the Table of Characteristics (see document TGP/9 "Examining Distinctness", Section 4 "Observation of characteristics"):

- MG: single measurement of a group of plants or parts of plants
- MS: measurement of a number of individual plants or parts of plants
- VG: visual assessment by a single observation of a group of plants or parts of plants
- VS: visual assessment by observation of individual plants or parts of plants

Type of observation: visual (V) or measurement (M)

"Visual" observation (V) is an observation made on the basis of the expert's judgment. For the purposes of this document, "visual" observation refers to the sensory observations of the experts and, therefore, also includes smell, taste and touch. Visual observation includes observations where the expert uses reference points (e.g. diagrams, example varieties, side-by-side comparison) or non-linear charts (e.g. color charts). Measurement (M) is an objective observation against a calibrated, linear scale e.g. using a ruler, weighing scales, colorimeter, dates, counts, etc.

Type of record: for a group of plants (G) or for single, individual plants (S)

For the purposes of distinctness, observations may be recorded as a single record for a group of plants or parts of plants (G), or may be recorded as records for a number of single, individual plants or parts of plants (S). In most cases, "G" provides a single record per variety and it is not possible or necessary to apply statistical methods in a plant-by-plant analysis for the assessment of distinctness."

In cases where more than one method of observing the characteristic is indicated in the Table of Characteristics (e.g. VG/MG), guidance on selecting an appropriate method is provided in document TGP/9, Section 4.2.

4.2 *Uniformity*

4.2.1 It is of particular importance for users of these Test Guidelines to consult the General Introduction prior to making decisions regarding uniformity. However, the following points are provided for elaboration or emphasis in these Test Guidelines:

4.2.2 The assessment of uniformity should be according to the recommendations for cross-pollinated varieties in the General Introduction.

4.3 *Stability*

4.3.1 In practice, it is not usual to perform tests of stability that produce results as certain as those of the testing of distinctness and uniformity. However, experience has demonstrated that, for many types of variety, when a variety has been shown to be uniform, it can also be considered to be stable.

4.3.2 Where appropriate, or in cases of doubt, stability may be further examined by testing a new seed stock to ensure that it exhibits the same characteristics as those shown by the initial material supplied.

5. Grouping of Varieties and Organization of the Growing Trial

5.1 The selection of varieties of common knowledge to be grown in the trial with the candidate varieties and the way in which these varieties are divided into groups to facilitate the assessment of distinctness are aided by the use of grouping characteristics.

5.2 Grouping characteristics are those in which the documented states of expression, even where produced at different locations, can be used, either individually or in combination with other such characteristics: (a) to select varieties of common knowledge that can be excluded from the growing trial used for examination of distinctness; and (b) to organize the growing trial so that similar varieties are grouped together.

5.3 Firstly, the collection should be divided according to the growth types in Table 1.

In cases of doubt to which growth sub-type a variety belongs to, it should be tested in all relevant growth sub-types.

5.4 The following have been agreed as useful grouping characteristics:

- (a) Leaf: color (characteristic 10)
- (b) Flower: color (characteristic 25)
- (c) Time of bolting (characteristic 27)

5.5 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction and document TGP/9 "Examining Distinctness".

Table 1

Plant : growth type	Growth sub-type	Plant: diameter (char. 1)	Plant : Shape of upper part in longitudinal section (char 3.)	Plain type only: leaf depth of lobing (char. 11)	Cut type only: Leaf: venation (char. 12)	Cut type only: Leaf: length of lobes (char. 13)	Plain type only: Leaf: creasing (char. 17)	Cut type varieties only: Leaf: ratio length of part of leaf without lobes/total length of leaf (char. 18)	Leaf: width of midrib at base (char. 19)
Plain ¹	Grosse Bouclée 2 (Nummer Vijf 2)	medium (notes 5-7)	rounded	shallow (notes 2-4)			medium (notes 4-6)		medium (notes 4-6)
Plain ¹	Breedblad Volhart Winter (A cœur plein)	medium (notes 4-6)	truncate	shallow (notes 2-4)			strong (notes 6-8)		broad (notes 6-8)
Plain ¹	Géante maraichère	large (notes 5-8)	truncate	absent or very shallow (note 1)			weak (notes 1-3)		broad (notes 6-8)
Plain ¹	Cornet	medium (notes 5-7)	pointed	absent or very shallow (notes 1 or 2)			strong (notes 5-7)		broad (notes 6-8)
Plain ¹	Ambio	medium (notes 4-6)	truncate	deep (to parted) (notes 7-9)			very strong (notes 8 or 9)		broad (notes 6-8)
Cut ²	Wallonne	very large (notes 7-9)	truncate		not flabellate	short (notes 3 or 4)		medium (notes 4-6)	broad (notes 6-8)
Cut ²	De Louviers	small (notes 1-5)	rounded		flabellate	long (notes 7-9)		small (notes 1-3)	very narrow (notes 1-3)
Cut ²	D' été a cœur jaune	medium (notes 4-6)	rounded		semi flabellate	medium (notes 4-6)		medium (notes 4-6)	medium (notes 4-6)

¹ The leaves of Plain growth types (*C. endivia* var. *latifolia*) are entire to almost parted, with an undulating and serrate to dentate margin;

² The leaves of Cut growth types (*C. endivia* var. *crispa*) are very deeply parted, with a crispate and dentate to lacinate margin.

The range of notes in the sub-type is indicated between brackets.

Section 8.1 provides illustrations for the growth sub-types.

6. Introduction to the Table of Characteristics

6.1 *Categories of Characteristics*

6.1.1 Standard Test Guidelines Characteristics

Standard Test Guidelines characteristics are those which are approved by UPOV for examination of DUS and from which members of the Union can select those suitable for their particular circumstances.

6.1.2 Asterisked Characteristics

Asterisked characteristics (denoted by *) are those included in the Test Guidelines which are important for the international harmonization of variety descriptions and should always be examined for DUS and included in the variety description by all members of the Union, except when the state of expression of a preceding characteristic or regional environmental conditions render this inappropriate.

6.2 *States of Expression and Corresponding Notes*

6.2.1 States of expression are given for each characteristic to define the characteristic and to harmonize descriptions. Each state of expression is allocated a corresponding numerical note for ease of recording of data and for the production and exchange of the description.

6.2.2 In the case of qualitative and pseudo-qualitative characteristics (see Chapter 6.3), all relevant states of expression are presented in the characteristic. However, in the case of quantitative characteristics with 5 or more states, an abbreviated scale may be used to minimize the size of the Table of Characteristics. For example, in the case of a quantitative characteristic with 9 states, the presentation of states of expression in the Test Guidelines may be abbreviated as follows:

State	Note
small	3
medium	5
large	7

However, it should be noted that all of the following 9 states of expression exist to describe varieties and should be used as appropriate:

State	Note
very small	1
very small to small	2
small	3
small to medium	4
medium	5
medium to large	6
large	7
large to very large	8
very large	9

6.2.3 Further explanation of the presentation of states of expression and notes is provided in document TGP/7 "Development of Test Guidelines".

6.3 *Types of Expression*

An explanation of the types of expression of characteristics (qualitative, quantitative and pseudo-qualitative) is provided in the General Introduction.

6.4 *Example Varieties*

Where appropriate, example varieties are provided to clarify the states of expression of each characteristic.

6.5 *Legend*

- (*) Asterisked characteristic – see Chapter 6.1.2
- QL Qualitative characteristic – see Chapter 6.3
- QN Quantitative characteristic – see Chapter 6.3
- PQ Pseudo-qualitative characteristic – see Chapter 6.3

- MG, MS, VG, VS – see Chapter 4.1.5

- (a)-(d) See Explanations on the Table of Characteristics in Chapter 8.2.

- (+) See Explanations on the Table of Characteristics in Chapter 8.3.

7. Table of Characteristics/Tableau des caractères/Merkmalstabelle/Tabla de caracteres

	English	français	Deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. (*)	VG Plant: diameter	Plante : diamètre	Pflanze: Durchmesser	Planta: diámetro		
QN (a)	very small	très petit	sehr klein	muy pequeño	Belusa	1
	small	petit	klein	pequeño	De Louviers	3
	medium	moyen	mittel	medio	Blonde à cœur plein, D'été à cœur jaune, Golda	5
	large	grand	groß	grande	Grosse Pancalière	7
	very large	très grand	sehr groß	muy grande	Superfiorentina, Wallonne	9
2. (+)	VG Plant: growth habit	Plante : port	Pflanze: Wuchsform	Planta: porte		
QN (a)	upright	dressé	aufrecht	erecto	Gloire de l'Exposition	1
	semi-upright	demi-dressé	halbaufrecht	semierecto	Blonde à cœur plein, D'été à cœur jaune	2
	horizontal	horizontal	waagrecht	horizontal	Argentée Mirabel, De Ruffec	3
3. (*)(+)	VG Plant: shape of upper part in longitudinal section	Plante : forme de la partie supérieure en section longitudinale	Pflanze: Form des oberen Teils im Längsschnitt	Planta: forma de la parte superior en sección longitudinal		
PQ (a)	truncate	tronquée	gerade	truncada	Aery, Gloire de l'Exposition	1
	rounded	arrondie	abgerundet	redondeada	Ameris, Dafne, Grosse Bouclée 2	2
	pointed	pointue	zugespitzt	puntiaguda	Cornet de la Loire	3
4. (+)	VG Heart: tendency to bleach	Cœur : tendance au blanchissement	Herz: Neigung zum Bleichen	Cogollo: tendencia a la decoloración		
QN (a)	absent or weak	absente ou faible	fehlend oder gering	ausente o débil	Géante maraîchère	1
	moderate	modérée	mäßig	moderada	Amos, D'été à cœur jaune	2
	strong	forte	stark	fuerte	Starly	3
5. (+)	VG Leaf: inflexing of upper part	Feuille : courbure de la partie supérieure	Blatt: Biegung des oberen Teils	Hoja: inflexión de la parte superior		
QN (b)	weak	faible	gering	débil	Cornet de la Loire	1
	medium	moyenne	mittel	media	Blonde à cœur plein	2
	strong	forte	stark	fuerte	D'hiver de Provence	3

	English	français	Deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
6.	VG	Leaf: length	Feuille : longueur	Blatt: Länge	Hoja: longitud	
QN	(b)	very short	très courte	sehr kurz	muy corta	Nairobi 1
		short	courte	kurz	corta	Gloire de l'Exposition 3
		medium	moyenne	mittel	media	D'hiver de Provence, Grosse Bouclée 2 5
		long	longue	lang	larga	D'été à cœur jaune, Tebas 7
		very long	très longue	sehr lang	muy larga	Atleta 9
7.	VG	<u>Plain type varieties only:</u> Leaf: width	<u>Variétés de type scarole seulement :</u> Feuille : largeur	<u>Nur ganzblättrige Sorten:</u> Blatt: Breite	<u>Sólo variedades de hojas anchas:</u> Hoja: anchura	
QN	(b)	narrow	étroite	schmal	estrecha	Pacos 3
		medium	moyenne	mittel	media	Grosse Bouclée 2 5
		broad	large	breit	ancha	Géante maraîchère 7
8.	VG	<u>Cut type varieties only:</u> Leaf: width	<u>Variétés de type frisée seulement :</u> Feuille : largeur	<u>Nur krausblättrige Sorten:</u> Blatt: Breite	<u>Sólo variedades de hojas rizadas:</u> Hoja: anchura	
QN	(b)	narrow	étroite	schmal	estrecha	Wallonne 3
		medium	moyenne	mittel	media	Belusa, D'hiver de Provence 5
		broad	large	breit	ancha	D'été à cœur jaune 7
9.	VG	<u>Plain type varieties only:</u> Leaf: shape	<u>Variétés de type scarole seulement :</u> Feuille : forme	<u>Nur ganzblättrige Sorten:</u> Blatt: Form	<u>Sólo variedades de hojas anchas:</u> Hoja: forma	
(+)	(b)	narrow obovate	obovale étroite	schmal verkehrt eiförmig	obovado estrecha	Escariol grüner, Pacos 1
QN		medium obovate	obovale moyenne	mittel verkehrt eiförmig	obovado media	Andes 3
		broad obovate	obovale large	breit verkehrt eiförmig	obovado ancha	Diva, Géante maraîchère, Kalinka 5

	English	français	Deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
10. VG (*)	Leaf: color	Feuille : couleur	Blatt: Farbe	Hoja: color		
PQ (b)	light yellowish green	vert jaunâtre clair	hell gelblichgrün	verde amarillento claro	Belusa	1
	medium yellowish green	vert jaunâtre moyen	mittel gelblichgrün	verde amarillento medio	Blonde à cœur plein, Magaly, Tarquinis	2
	dark yellowish green	vert jaunâtre foncé	dunkel gelblichgrün	verde amarillento oscuro	Kampero	3
	very light green	vert très clair	sehr hellgrün	verde muy claro	Gloire de l'exposition, Systel	4
	light green	vert clair	hellgrün	verde claro	Cathie, Milady, Solera	5
	medium green	vert moyen	mittelgrün	verde medio	Géante Maraîchère, Nuance, Sally	6
	dark green	vert foncé	dunkelgrün	verde oscuro	Atleta, Minerva, Wallonne	7
	very dark green	vert très foncé	sehr dunkelgrün	verde muy oscuro	D'hiver de Provence, Isola	8
	light greyish green	vert grisâtre clair	hell gräulichgrün	verde grisáceo claro	Barundi, De Louviers, Lassie	9
	medium greyish green	vert grisâtre moyen	mittel gräulichgrün	verde grisáceo medio	Argentée Mirabel, Constance, Woodie	10
	dark greyish green	vert grisâtre foncé	dunkel gräulichgrün	verde grisáceo oscuro	De Namur, Snoopie	11
11. VG (+)	<u>Plain type varieties only:</u> Leaf: depth of lobing	<u>Variétés de type scarole seulement :</u> Feuille : profondeur de la découpe	<u>Nur ganzblättrige Sorten:</u> Blatt: Tiefe der Lappung	<u>Sólo variedades de hojas anchas:</u> Hoja: profundidad del lobulado		
QN (b)	absent or very shallow	absente ou très peu profonde	fehlend oder sehr flach	ausente o muy poco profundo	Géante Mâraichère	1
	shallow	peu profonde	flach	poco profundo	Blonde à Coeur plein, Grosse Bouclée 2	3
	medium	moyenne	mittel	medio	Maruschka	5
	deep	profonde	tief	profundo	Ambio	7
	very deep	très profonde	sehr tief	muy profundo	Friscaro	9
12. VG (+)	<u>Cut type varieties only:</u> Leaf: venation	<u>Variétés de type frisée seulement :</u> Feuille : nervation	<u>Nur krausblättrige Sorten:</u> Blatt: Aderung	<u>Sólo variedades de hojas rizadas:</u> Hoja: nervadura		
QN (b)	not flabellate	non flabelliforme	nicht fächerförmig	no flabeliforme	Wallonne	1
	semi flabellate	semi-flabelliforme	halb-fächerförmig	semiflabeliforme	D'été à coeur jaune	2
	flabellate	flabelliforme	fächerförmig	flabeliforme	De Louviers, Gloire de l'exposition	3
13. VG (+)	<u>Cut type varieties only:</u> Leaf: length of lobes	<u>Variétés de type frisée seulement :</u> Feuille : longueur des lobes	<u>Nur krausblättrige Sorten:</u> Blatt: Länge der Lappen	<u>Sólo variedades de hojas rizadas:</u> Hoja: longitud de los lóbulos		
QN (b)	short	courts	kurz	cortos	Wallonne	3
	medium	moyens	mittel	medios	D'été à Coeur jaune	5
	long	longs	lang	largos	Trés fine Mâraichère	7
	very long	très longs	sehr lang	muy largos		9

	English	français	Deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
14.	VG	Plain type varieties only: Leaf: dentation of margin	Variétés de type scarole seulement : Feuille : denture du bord	Nur ganzblättrige Sorten: Blatt: Zähnung des Randes	Sólo variedades de hojas anchas: Hoja: dentado del borde	
(+)						
QN	(b)	absent or weak	absente ou faible	fehlend oder gering	ausente o débil	Grosse Bouclée 2 1
		medium	moyenne	mittel	medio	Géante Mâraichère 2
		strong	forte	stark	fuerte	Cornet 3
15.	VG	Cut type varieties only: Leaf: length of dentation of margin	Variétés de type frisée seulement : Feuille : longueur de la denture du bord	Nur krausblättrige Sorten: Blatt: Länge der Zähnung des Randes	Sólo variedades de hojas rizadas: Hoja: longitud del dentado del borde	
(+)						
QN	(b)	short	courte	kurz	corto	Atleta 3
		medium	moyenne	mittel	medio	Trés fine Mâraichère 5
		long	longue	lang	largo	Ruffec 7
16.	VG	Plain type varieties only: Leaf: undulation of margin	Variétés de type scarole seulement : Feuille : ondulation du bord	Nur ganzblättrige Sorten: Blatt: Randwellung	Sólo variedades de hojas anchas: Hoja: ondulación del borde	
(+)						
QN	(b)	weak	faible	gering	débil	Ophely 3
		medium	moyenne	mittel	media	Grosse Bouclée 2 5
		strong	forte	stark	fuerte	Gigance 7
17.	VG	Plain type varieties only: Leaf: creasing	Variétés de type scarole seulement : Feuille : crispation	Nur ganzblättrige Sorten: Blatt: Faltung	Sólo variedades de hojas anchas: Hoja: crenado	
(+)						
QN	(b)	weak	faible	gering	débil	Géante Mâraichère 3
		medium	moyenne	mittel	medio	Grosse Bouclée 2 5
		strong	forte	stark	fuerte	Blonde à cœur plein 7
18.	VG	Cut type varieties only: Leaf: ratio length of part of leaf without lobes/total length of leaf	Variétés de type frisée seulement : Feuille : rapport longueur de la partie de la feuille sans lobes/longueur totale de la feuille	Nur krausblättrige Sorten: Blatt: Verhältnis Länge des Blatteils ohne Lappen/Gesamtlänge des Blattes	Sólo variedades de hojas rizadas: Hoja: relación entre la longitud de la parte de la hoja sin lóbulos y la longitud total de la hoja	
(*)						
(+)						
QN	(b)	very low	très bas	sehr klein	muy baja	D'Olivet 1
		low	bas	klein	baja	De Louviers 3
		medium	moyen	mittel	media	Wallonne 5
		high	élevé	groß	alta	7
		very high	très élevé	sehr groß	muy alta	Toujours Blanche 9

	English	français	Deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
19. VG (*)	Leaf: width of midrib at base	Feuille : largeur de la nervure médiane à la base	Blatt: Breite der Mittelrippe an der Basis	Hoja: anchura del nervio central en la base		
QN (b)	very narrow	très étroite	sehr schmal	muy estrecho	Fresseta	1
	narrow	étroite	schmal	estrecho	Mercedes	3
	medium	moyenne	mittel	medio	D'été à cœur jaune, Grosse Bouclée 2	5
	broad	large	breit	ancho	Blonde à cœur plein, Wallonne	7
20. VG (*)	Leaf: anthocyanin coloration at base	Variétés de type frisée seulement : Feuille : pigmentation anthocyanique de la nervure médiane à la base	Nur krausblättrige Sorten: Blatt: Anthocyanfärbung an der Basis	Sólo variedades de hojas rizadas: Hoja: pigmentación antocianica en la base		
QN (b)	absent or weak	nulle ou faible	fehlend oder gering	ausente o débil	D'été à cœur jaune	1
	medium	moyenne	mittel	media		2
	strong	forte	stark	fuerte	De Meaux	3
21. VG (+)	Stem: height	Tige : hauteur	Stängel: Höhe	Tallo: altura		
QN (c)	short	courte	niedrig	bajo	De Louviers	3
	medium	moyenne	mittel	medio	D'été à cœur jaune	5
	tall	haute	hoch	alto	Cornet de la Loire, D'Hiver de Provence	7
22. VG (+)	Stem: fasciation	Tige : fasciation	Stängel: Verbänderung	Tallo: fasciación		
QL (c)	absent	absente	fehlend	ausente	Cornet d'Anjou, D'Hiver de Provence, De Ruffec	1
	present	présente	vorhanden	presente	Golda, Grosse Bouclée 2	9
23. VG	Stem: attitude of branches	Tige : port des ramifications	Stängel: Stellung der Seitentriebe	Tallo: porte de las ramificaciones		
QN (c)	erect	dressé	aufrecht	erecto	Grosse Bouclée 2	1
	semi-erect	demi-dressé	halbaufrecht	semierecto		3
	horizontal	horizontal	waagrecht	horizontal	Ariga	5
24. VG	Plain type varieties only: Stem: shape of stipules	Variétés de type scarole seulement : Tige : forme des stipules	Nur ganzblättrige Sorten: Stängel: Form der Nebenblätter	Sólo variedades de hojas anchas: Tallo: forma de las estípulas		
QN (c)	narrow elliptic	elliptique étroits	schmal elliptisch	elíptica estrecha		1
	broad elliptic	elliptiques larges	breit elliptisch	elíptica ancha	Blonde à cœur plein	2
	circular	arrondis	kreisförmig	circular	Solera	3

	English	français	Deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
25.	VG	Flower: color	Fleur : couleur	Blüte: Farbe	Flor: color	
	(*)					
	(+)					
PQ	white	blanche	weiß	blanco	De Louviers, Grosse pommant seule	1
	light pink	rose pâle	hellrosa	rosa claro	Lisuna	2
	dark pink	rose foncé	dunkelrosa	rosa oscuro	Ascari	3
	blue	bleue	blau	azul	Grosse Bouclée 2	4
	violet blue	bleu violacé	violettblau	azul violeta	Alaska, Ariga, Sally, Wallonne	5
26.	MG	Time of harvest maturity	Époque de maturité de récolte	Zeitpunkt der Erntereife	Época de madurez para la cosecha	
	(+)					
QN	early	précoce	früh	temprana	Sally	3
	medium	moyenne	mittel	media		5
	late	tardive	spät	tardía	Wallonne	7
	very late	très tardive	sehr spät	muy tardía	Cornet d'Anjou	9
27.	MG	Time of bolting	Époque de montaison	Zeitpunkt des Schossens	Época de espigado a flor	
	(*)					
QN	very early	très précoce	sehr früh	muy temprana	Noveli	1
	early	précoce	früh	temprana	De Meaux, Grosse pommant seule	3
	medium	moyenne	mittel	media	Sally	5
	late	tardive	spät	tardía	Blonde à cœur plein	7
	very late	très tardive	sehr spät	muy tardía	Excel	9

8. Explanations on the Table of Characteristics

8.1 *Endive Growth Sub-Types (under Section 5.3)*



Grosse bouclée 2 (Nummer Vijf 2)



Breedblad Volhart Winter (A cœur plein)



Géante maraichère



Cornet



Ambio



Wallonne



De Louviers



D'été à cœur jaune

8.2 Explanations covering several characteristics

Characteristics should be observed under natural conditions without forcing measures.

Characteristics containing the following key in the second column of the Table of Characteristics should be examined as indicated below:

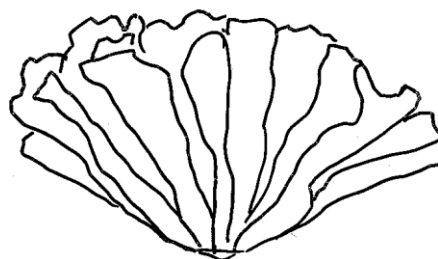
- (a) Plant: Observations on the plant should be made just before harvest maturity.
- (b) Leaf: Observations on the leaf should be made just before harvest maturity on leaves excluding the outer and center leaves.
- (c) Stem: Observations on the stem should be made on a flowering stem.
- (d) Flower: The color should be observed on just opened flowers, because the color of the flowers changes with ageing.

8.3 Explanation for individual characteristics

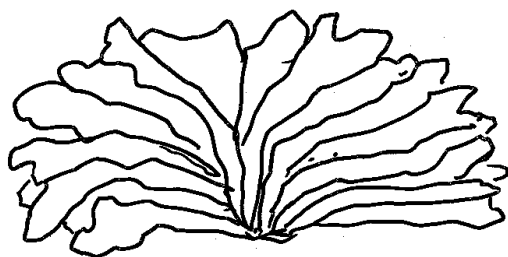
Ad. 2: Plant: growth habit



1
upright



2
semi-upright

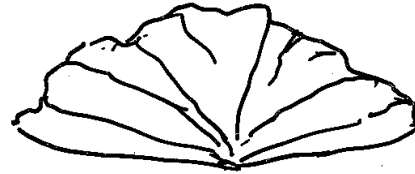


3
horizontal

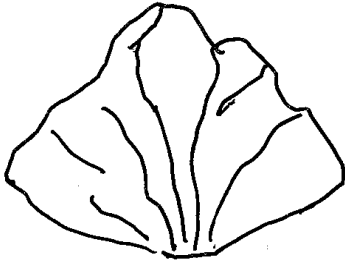
Ad. 3: Plant: shape of upper part in longitudinal section



1
truncate



2
rounded



3
pointed

Ad. 4: Heart: tendency to bleach



1
absent or weak



2
moderate

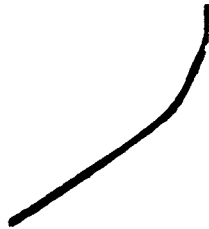


3
strong

Ad. 5: Leaf: inflexing of upper part



1
weak



2
medium



3
strong

Ad. 9: Plain type varieties only: Leaf: shape



1
narrow obovate



3
medium obovate



5
broad obovate

Ad. 11: Plain type varieties only: Leaf: depth of lobing



1
absent or very shallow



3
shallow

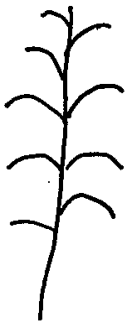


5
medium



7
deep

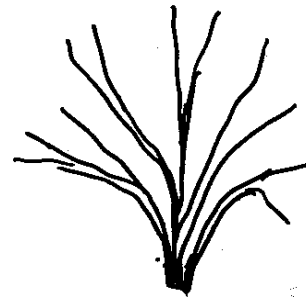
Ad. 12: Cut type varieties only: Leaf: venation



1
not flabellate



2
semi flabellate



3
flabellate

Ad. 13: Cut type varieties only: Leaf: length of lobes

The length of the lobes is to be observed from the attachment to the tip, following the curving of the lobes. In this illustration the length of the lobe is indicated by a dotted line.



Ad. 14: Plain type varieties only: Leaf: dentation of margin



1
absent or weak



2
medium



3
strong

Ad. 15: Cut type varieties only: Leaf: length of dentation of margin



3
short



5
medium



7
long

Ad. 16: Plain type varieties only: Leaf: undulation of margin

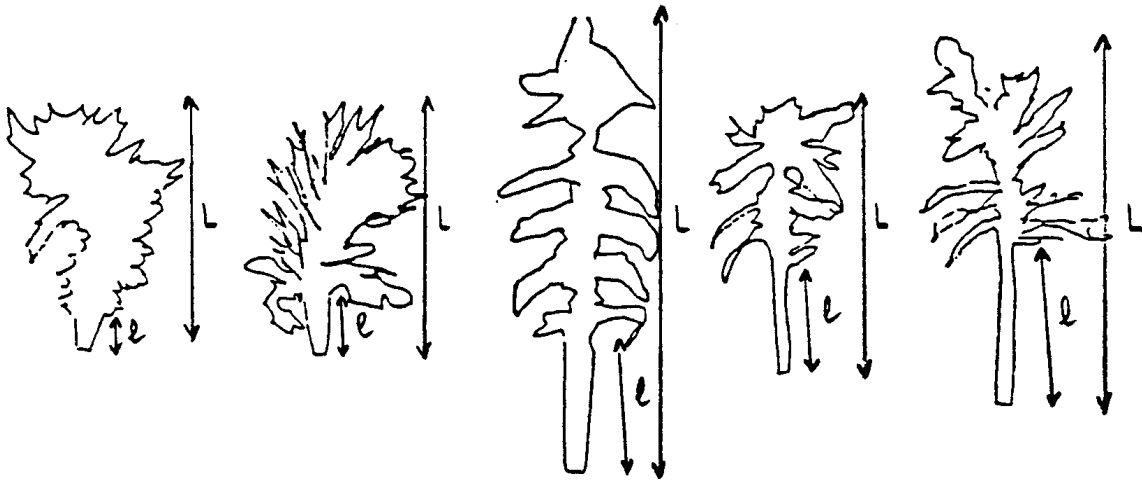


3
weak



7
strong

Ad. 18: Cut type varieties only: Leaf: ratio length of part of leaf without lobes/total length of leaf



L = total length of leaf
l = length of part of leaf without lobes

- | | | | | |
|----------|-----|--------|------|-----------|
| 1 | 3 | 5 | 7 | 9 |
| very low | low | medium | high | very high |

Ad. 21: Stem: height

To be observed for each variety individually when the first flowers are open.



Ad. 22: Stem: fasciation



1
absent



9
present

Ad. 25: Flower: color



1	2	3	4	5
white	light pink RHS 75D	dark pink RHS 70D	blue RHS 97A	violet blue RHS 92B

The reference to the RHS Colour Chart is indicative.

Ad. 26: Time of harvest maturity

Harvest maturity is reached before the beginning of bolting. For those varieties that do not bolt, harvest maturity is when they have reached their full size.

9. Literature

No specific literature.

10. Technical Questionnaire

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
		Application date: (not to be filled in by the applicant)
TECHNICAL QUESTIONNAIRE to be completed in connection with an application for plant breeders' rights		
1. Subject of the Technical Questionnaire		
1.1 Botanical name	<input type="text" value="Cichorium endivia L."/>	
1.2 Common name	<input type="text" value="Endive"/>	
2. Applicant		
Name	<input type="text"/>	
Address	<input type="text"/>	
Telephone No.	<input type="text"/>	
Fax No.	<input type="text"/>	
E-mail address	<input type="text"/>	
Breeder (if different from applicant)	<input type="text"/>	
3. Proposed denomination and breeder's reference		
Proposed denomination (if available)	<input type="text"/>	
Breeder's reference	<input type="text"/>	

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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#4. Information on the breeding scheme and propagation of the variety

4.1 Method of propagating the variety

- (a) Cross-pollination []
(b) Other []
(please provide details)

[]

Authorities may allow certain of this information to be provided in a confidential section of the Technical Questionnaire.

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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5. Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in Test Guidelines; please mark the note which best corresponds).

Characteristics	Example Varieties	Note
5.1 Plant: diameter (1)		
very small	Belusa	1[]
very small to small		2[]
small	De Louviers	3[]
small to medium		4[]
medium	Blonde à cœur plein, D'été à cœur jaune, Golda	5[]
medium to large		6[]
large	Grosse Pancalière	7[]
large to very large		8[]
very large	Superfiorentina, Wallonne	9[]
5.2 Leaf: color (10)		
light yellowish green	Belusa	1[]
medium yellowish green	Blonde à cœur plein, Magaly, Tarquinis	2[]
dark yellowish green	Kampero	3[]
very light green	Gloire de l'exposition, Systel	4[]
light green	Cathie, Milady, Solera	5[]
medium green	Géante Maraîchère, Nuance, Sally	6[]
dark green	Atleta, Minerva, Wallonne	7[]
very dark green	D'hiver de Provence, Isola	8[]
light greyish green	Barundi, De Louviers, Lassie	9[]
medium greyish green	Argentée Mirabel, Constance, Woodie	10[]
dark greyish green	De Namur, Snoopie	11[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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Characteristics	Example Varieties	Note
5.3 Flower: color (25)		
white	De Louviers, Grosse pommant seule	1[]
light pink	Lisuna	2[]
dark pink	Ascari	3[]
blue	Grosse Bouclée 2	4[]
violet blue	Alaska, Ariga, Sally, Wallonne	5[]
5.4 Time of bolting (27)		
very early	Noveli	1[]
very early to early		2[]
early	De Meaux, Grosse pommant seule	3[]
early to medium		4[]
medium	Sally	5[]
medium to late		6[]
late	Blonde à cœur plein	7[]
late to very late		8[]
very late	Excel	9[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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6. Similar varieties and differences from these varieties

Please use the following table and box for comments to provide information on how your candidate variety differs from the variety (or varieties) which, to the best of your knowledge, is (or are) most similar. This information may help the examination authority to conduct its examination of distinctness in a more efficient way.

Denomination(s) of variety(ies) similar to your candidate variety	Characteristic(s) in which your candidate variety differs from the similar variety(ies)	Describe the expression of the characteristic(s) for the similar variety(ies)	Describe the expression of the characteristic(s) for your candidate variety
<i>Example</i>	<i>Leaf: color</i>	<i>yellowish green</i>	<i>green</i>
Comments:			

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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#7. Additional information which may help in the examination of the variety

7.1 In addition to the information provided in sections 5.3 and 8.1, please provide information concerning:
Growth type

Plain type (*C. endivia* var. *latifolia*) []
Sub-type: Grosse bouclée 2 (Nummer Vijf 2) []
Sub-type: Breedblad Volhart Winter (A cœur plein) []
Sub-type: Géante maraichère []
Sub-type: Cornet []
Sub-type: Ambio []

Cut type (*C. endivia* var. *crispa*) []
Sub-type: Wallonne []
Sub-type: De Louviers []
Sub-type: D'été à cœur jaune []

7.2 Are there any special conditions for growing the variety or conducting the examination?

Yes [] No []

(If yes, please provide details)

7.3 Other information

8. Authorization for release

(a) Does the variety require prior authorization for release under legislation concerning the protection of the environment, human and animal health?

Yes [] No []

(b) Has such authorization been obtained?

Yes [] No []

If the answer to (b) is yes, please attach a copy of the authorization.

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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9. Information on plant material to be examined or submitted for examination.

9.1 The expression of a characteristic or several characteristics of a variety may be affected by factors, such as pests and disease, chemical treatment (e.g. growth retardants or pesticides), effects of tissue culture, different rootstocks, scions taken from different growth phases of a tree, etc.

9.2 The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If the plant material has undergone such treatment, full details of the treatment must be given. In this respect, please indicate below, to the best of your knowledge, if the plant material to be examined has been subjected to:

- | | | |
|---|---------|--------|
| (a) Microorganisms (e.g. virus, bacteria, phytoplasma) | Yes [] | No [] |
| (b) Chemical treatment (e.g. growth retardant, pesticide) | Yes [] | No [] |
| (c) Tissue culture | Yes [] | No [] |
| (d) Other factors | Yes [] | No [] |

Please provide details for where you have indicated "yes".

.....

10. I hereby declare that, to the best of my knowledge, the information provided in this form is correct:

Applicant's name

Signature

Date

[End of document]